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(atp adj15 wound)	33

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L1: Entry 4 of 16

File: USPT

Mar 7, 1995

DOCUMENT-IDENTIFIER: US 5395398 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Microelectric apparatus for the antiseptis, promulgation of healing and analgesia of wound and chronic skin ulcers

Detailed Description Text (43):

Some chronic wounds or ulcers develop as a consequence of a primary disease process. For example, those persons afflicted with diabetes typically exhibit very poor peripheral vascular circulation, especially of the lower extremities. Skin breakdown, chronic wounds and ulcers are common among active, insulin-dependent diabetics. Most diabetic foot and leg ulcers are slow to heal and quite prone to serious infections, many of which result in life-threatening gangrene that can only be resolved, in many cases, by surgical amputation of the limb. Administration of microcurrents, through the ESP device 100, to a bacterially contaminated diabetic leg or foot ulcer can provide a high degree of prophylaxis against infection, as well as stimulate the body's tissue to manufacture ATP, an essential requirement of protein synthesis and wound healing.

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L1: Entry 5 of 16

File: USPT

Feb 21, 1995

DOCUMENT-IDENTIFIER: US 5391550 A

TITLE: Compositions of matter and methods for increasing intracellular ATP levels and physical performance levels and for increasing the rate of wound repair

Brief Summary Text (16):3. The Role of ATP in Wound RepairBrief Summary Text (20):

As noted above, the contractile mechanism of these fibrils is dependent on ATP. Thus, the rate of localized wound contraction produced by the myofibroblasts is dependent on the amount of ATP available to them as an intracellular energy source. Moreover, ATP serves as an energy source for other wound repair processes, including granulation of the wound by fibroblasts, gluconeogenesis and protein synthesis, and epithelialization.

Drawing Description Text (7):

FIGS. 15 and 16 illustrate the relationship between the reduction in wound weight and the amount of ATP found in the wound for gel-treated wounds.

Detailed Description Text (30):

After each wound was removed it was immediately frozen at -80.degree. C. for wound weight and ATP determination. The concentration of ATP was determined in wound tissue by mincing the entire section containing granulation tissue. The ATP levels were expressed as ATP milligram/10 g of tissue.

Detailed Description Text (33):

Both solution and gel treatments, in addition to producing a marked reduction in wound weight, also reduced the amount of ATP found in the wound. This is evident in Tables VI and VII and in FIGS. 15 and 16. While it is apparent both in gel and solution treated wounds that ATP levels are reduced by the composition, the reduced level of ATP at the wound site is not unexpected, since protein metabolism for wound repair and the wound contraction produced by the myofibroblasts both require significant amounts of energy in the form of ATP. That is, additional intracellular ATP synthesized by the cells in response to the present invention is quickly utilized for contraction, gluconeogenesis and protein synthesis.

Detailed Description Text (36):

Another advantage of the present invention is the fact that the topical application of compositions according to the invention have an antimicrobial effect which helps prevent or abate infection in a wound. In fact, the antimicrobial effect of the present invention is expected to accelerate wound closure even without increasing the level of ATP synthesized (and consumed) at the locus of a wound. The antimicrobial effect will be demonstrated as follows:

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